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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/517,210

03/09/2005

Evy Lundgren-Akerlund

10676.0010

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7590

12/31/2008

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EXAMINER

HADDAD, MAHER M

ART UNIT

PAPER NUMBER

1644

MAIL DATE

DELIVERY MODE

12/31/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/517,210	<b>Applicant(s)</b> LUNDGREN-AKERLUND, EVY	
	<b>Examiner</b> Maher M. Haddad	<b>Art Unit</b> 1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) 5, 7-14 and 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 15, 19 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## RESPONSE TO APPLICANT'S AMENDMENT

1. Applicant's amendment, filed 9/19/08, is acknowledged.
2. Claims 1-19 and 21 are pending.
3. Claims 5, 7-14 and 16-18 stand withdrawn from further consideration by the Examiner, 37 C.F.R. § 1.142(b) as being drawn to a nonelected invention.
4. Claims 1-4, 6, 15, 19 and 21 are under consideration in the instant application as they read on a method of identifying a mammalian mesenchymal stem cell using a marker comprising an integrin alpha 10 chain expressed on the cell surface of a mesenchymal stem cell or intracellular in mesenchymal stem cell as a marker for mammalian mesenchymal stem cells, wherein the expression is detected by an immunoassay
5. The following new ground of rejections are necessitated by the amendment submitted 9/19/08.
  12. The following is a quotation of the first paragraph of 35 U.S.C. 112:  
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
6. Claims 1-4, 6, 15, 19 and 21 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a New Matter rejection.

The phrases "a subpopulation of mammalian mesenchymal stem cells" and "wherein said subpopulation has enhanced chondrogenic potential as compared to the rest of mammalian mesenchymal stem cell population" claimed in claims 1, 3, 15 represents a departure from the specification and the claims as originally filed.

Applicant's amendment filed 9-19-08 points to the specification at Example 3 for support for the newly added limitations as claimed in claims 1, 3 and 15. However, the specification does not provide a clear support for such limitations. It is noted that Example 3 only support FGF-2 treated mesenchymal stem cells. The instant claims now recite limitations which were not clearly disclosed in the specification and recited in the claims as originally filed.

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7. Claims 1-4, 6, 15, 19 and 21 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method for identifying an integrin alpha 10 chain expressing mesenchymal stem cells comprising

- a) providing a sample comprising mesenchymal stem cells,
- b) contacting the sample with FGF-2,
- c) contacting the sample in step b) with an antibody which specifically binds integrin alpha 10 chain,
- d) detecting integrin chain alpha 10 expression on the cell surface of cells of the sample or intracellular in cells of the sample,
- e) positively correlating the integrin chain alpha 10 expression detected in step e) with the cells being the alpha 10 expressing mesenchymal stem cells,

does not reasonably provide enablement for the claimed methods recited in 1-4, 6, 15, 19 and 21. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims for the same reason set forth in the previous Office Action mailed, 5/23/08.

Applicant's arguments, filed 9/19/08, have been fully considered, but have not been found convincing.

Applicant submits the claims have been amended to be commensurate in scope with the invention indicated as enabled by the Examiner on pages 4-5 of the Office Action of May 23, 2008.

However, the Office Action mailed on 5/23/08 did not indicate any enabling invention.

8. No claim is allowed.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maher Haddad whose telephone number is (571) 272-0845. The examiner can normally be reached Monday through Friday from 7:30 am to 4:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen B. O'Hara can be reached on (571) 272-0878. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 26, 2008

/Maher M. Haddad/  
Maher M. Haddad, Ph.D.  
Primary Examiner  
Technology Center 1600